APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,581	03/31/2001	Qiming Chen	10006527-1	6813

7590 08/12/2005	**EXAMINER**
HEWLETT-PACKARD COMPANY	JARRETT, SCOTT L
Intellectual Property Administration	

ART UNIT	PAPER NUMBER
3623	

P.O. Box 272400
Fort Collins, CO 80527-2400

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/823,581	CHEN ET AL.
	Examiner	Art Unit	
	Scott L. Jarrett	3623	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _15 June 2005_.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-20_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-20_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _02 June 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____.

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

            application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This **Final** Office Action is responsive to Applicant's amendment filed June 15,

2005. Applicant's amendment amended claims 1-20. Currently claims 1-20 are

pending.

Response to Amendment

2.   The objections to Claims 15-18 in the First Office Action are withdrawn in

response to the Applicant's amendments to Claims 15-18.

3.   The 35 U.S.C. ǝ 101 rejections of Claims 1-20 in the First Office Action are

withdrawn in response to the Applicant's amendments to Claims 1-20.

4.   The 35 U.S.C. ǝ 112 (2) rejections of Claims 3-4 and 14 in the First Office Action

are withdrawn is response to the Applicant's amendments to Claims 3-4 and 14.

5.   It is noted that the reply filed on June 15, 2005 is not fully responsive to the prior

Office Action because of the following omission(s) or matter(s): Applicant's remarks

and/or amendments did not address the objections related to the improper incorporation

of material into the specification. See 37 CFR 1.111.

Response to Arguments

6.   Applicant's arguments filed June 15, 2005 have been fully considered but they

are not persuasive.

In the Applicant's remarks filed June 15, 2005 applicant argues that the USC

102(b) rejection of Claims 1-4, 6-9, 14-15 and 17-20:

- improperly relies on multiple references; specifically that the multiple

references do not meet the limited circumstances under which such rejections are

appropriate as stated in MPEP 2131.01 (Pages 10-11); and

- has not provided specific citations (locations in the cited references) for all the

claimed elements specifically the first and second collaboration process manager

elements as cited in at least Claims 1 and 14 (Page 11).

Further the applicant argues that the USC 103(a) rejection of Claims 5, 10-13

and 16:

- has not provided specific citations (locations in the cited references) for all the

claimed elements (Page 12); and

- that adequate documentary evidence of the officially noticed facts has not been

provided (Page 12).

Examiner respectfully disagrees that the use of multiple references in the USC

102(b) rejection of Claims 1-4, 6-9, 14-15 and 17-20 is improper. The office action

dated March 15, 2005 clearly states that the claimed invention is rejected as being

clearly anticipated by the Advanced Decision Environment for Process Tasks (ADEPT)

system, *the single prior art reference*, aspects of which are discussed by/evidenced in

the cited supporting references. The cited supporting references, see listing below, are

proper and are cited to show one or more characteristics (feature, capabilities, etc.)

inherent in the ADEPT system over which the instant application has been rejected.

 I. Norman, T.J., et al. Designing and implementing a multi-agent architecture for

business process management (1996) herein after referred to as reference A.

 II. Jennings, N.R. et al., Using Intelligent Agents to Manage Business Processes

(1996) herein after referred to as reference B.

 III. O'Brien, P.D. et al., Agent based process management: applying intelligent

agents to workflow (1998) herein after referred to as reference C.

 IV. Alty, J.L. et al., Advanced Decision Environment for Process Tasks:

Overview and Architecture (1994) herein after referred to as reference D.

 Each of the cited supporting references expressly teach a plurality of

features/capabilities (characteristics) inherent in the ADEPT system and further each of

references are clearly interrelated as evidenced by the following:

 - each reference specifically cites ADEPT as the focus of the articles (references

A, B and D) or as an exemplary system of the articles teachings (reference C:

Introduction, Page 1; Section 4.1, Page 9);

 - common authorship amongst the references: N.R. Jennings (references A, B

and D); M.E. Wiegand (references B, C and D); P.D. O'Brien (references B and C); P.

Faratin (references A and B); and E.H. Mamdani (references A and D); and

- cross references/citations between the references: reference A cites reference B (Pages 2, 7, 10 and 12); reference B cites reference D (Page 15); and reference C cites reference B (Pages 12, 13).

Regarding Applicant's argument that the office action dated March 15, 2005 failed to cite specific locations that taught or suggested each of the claimed elements of the invention, specifically the first and second collaboration process managers as cited in at least Claims 1 and 14 examiner respectfully disagrees.

In the office action dated March 15, 2005 examiner provided a plurality of citations that demonstrate that the ADEPT system teaches each and every element of the invention and the examiner further requested that the applicant consider each and every cited reference in their entirety (Page 25).

ADEPT teaches a method and system for managing collaboration processes involving a plurality of players (entities, businesses, organizations, etc.) wherein the system utilizes a plurality of collaborative process managers (i.e. software **agents** that collaborative execute inter/intra organizational business processes; peer-to-peer and peer-to-not-peer agents, agencies, virtual agency, controlling agents, first and second collaborative process managers, subsystems, code, programs, modules, engines, objects, etc.) to manage instantiated (active, running, executed, etc.) business processes as evidenced by at least the following passages and figures:

- "ADEPT (Advanced Decision Environment for Process Tasks) project is that an agent based approach should be suitable for implementing systems to manage business processes." (reference A: Page 1, Paragraph 1, Line 6-7);

"Designing a multi-agent system to manage business processes involves the principled transformation of some description of that business process into a number of communicating and cooperating software agents." (reference A: Page 2, Paragraph 2, Lines 1-3);

- "An ADEPT system may consist of a mixture of hierarchies of agencies and peer structures enabling any organizational structure to be reflected in the multi-agent system." (reference A: Page 2, Paragraph 4, Lines 1-2);

- "In the ADEPT environment agents are autonomous, i.e. agents have control over the tasks that they may perform, the resources available to them and how they coordinate their activities with other agents." (reference A: Page 6, Paragraph 3, Lines 1-2);

- Reference A: Introduction, Pages 1-2; Figures 1-2, Page 3; Figure 3, Page 8;

- "...the most natural way to view the business process is as a collection of autonomous, problem solving agents which interact when they have interdependencies." (reference B: Page 2, Paragraph 2, Lines 1-3);

- "Each agent is able to perform one or more services (figure 1). A service corresponds to some unit of problem solving activity (section 2.2). The simplest service (called a task) represents an atomic unity of problem solving in the ADEPT system." (reference B: Page 3, Paragraph 1, Lines 1-3);

- Reference B: Figure 1, Page 3; Figure 2, Page 5; Page 15, Bullets 1-3;

- "Agents are goal-oriented entities which are able to solve autonomously

particular problems and be responsive to changes in their environment." (reference D:

Page 2, Paragraph 2, Lines 3-5); and

- Reference D: Page 7, Paragraph 2; Figures 2-5.

Further it noted that the disclosure of the instant application teaches

implementing (realizing, designing, executing, etc.) the collaborative process managers

as software agents/engines (code, modules, components, subsystems, etc.;

Specification: Page 2, Lines 14-16; Page 11, Lines 4-6; HP E-Speak, an agent

intercommunication mechanism, Page 18, Lines 27-28).

Regarding Applicant's argument that the office action dated March 15, 2001

lacks adequate evidentiary support for the officially noticed facts the following support is

provided.

As per Applicant's request for evidentiary support for the officially noticed fact

that message queues are used for managing tasks; ADEPT teaches that the

collaborative process management system and method utilizes a plurality of

collaborative process managers (software agents) that communicate/collaborate an

Object Request Broker (ORB) and messaging (messages, packages, emails, etc.)

(reference A: "The communication medium may consist of a dedicated local or wide

area network via some standard communications protocol, an Object Request Broker

(Mowbay and Zahavi 1995), or use of the Internet via Email, for example.", Page 2,

Section 2.1, Paragraph 1, Lines 5-8; Section 2.2 Inter-agent communication, Pages 4-6;

Page 7, Section 3, Paragraphs 1-2; Section 3.1 Communication, Pages 8-9; reference

B: Page 4, Paragraph 3, Communications Module; reference C: "CORBA", Page 11,

Bullet 1).

      Orfali, Robert et al., Client/Server Survival Guide (1999), teach a plurality of old

and very well known technologies including but not limited to the Object Request

Brokers and message queues (Pages 469, 479) and that such technologies are used to

create business and business process objects that are "…used to design systems that

mimic the business processes they support." (Page 494, Paragraph 4; Page 496).

      More specifically Orfali et al. teach that ORBs enable components (business

objects, agents, systems, code, programs, applications, etc.) to communicate across

networks and that ORBs comprise a plurality of subsystems (services) including but not

limited to messaging (Page 469, Paragraphs 2-3; Figure 22-2; Message Oriented

Middleware, Page 479; Figures 8-1 and 8-10). Orfali et al. teach that one well known

and widely used ORB is provided/defined as part of the Common Object Request

Broker Architecture (CORBA) standard (Pages 473-474 and 479).

      Orfali et al. further teach message queuing (Message Oriented Middleware) are

utilized to manage the communication/collaboration between systems (objects, agents,

etc.) in an the asynchronous fashion thereby making it "…incredibly helpful in situations

where you do not want the clients and servers to be tightly synchronized" (Page 157,

Paragraph 2, Lines 6-7; e.g. multi-agent systems that manage inter-enterprise

heterogeneous processes; Pages 170-172; Figures 8-6, 8-7, 8-8 and 8-10; Table 8.1)

and enables peer-to-peer communications (Page 159).

As per Applicant's request for evidentiary support for the officially noticed fact

that specifying one or more process/workflow parameters (initial data, scope, access

control, etc.), in a template; ADEPT teaches the utilization of a plurality of templates to

define the business process, collaborative process managers (agents; e.g. the

tasks/services the agents provide and request; service level agreements, service

description language; contracts, default values, etc.) and the

messages/communications used to connect/coordinate the plurality of collaborative

process managers (reference B: Section 2.2, Pages 6-7; Figures 3-4; reference C:

Paragraph 2, Page 6; Figure 4; reference D: Section 4.1, Pages 8-9; Step 3, Page 8)

Du et al., U.S. Patent No. 5,826,239, and Davis et al., U.S. Patent 5,937,388,

both teach that "Associated with each workflow process 18, there is a process data

template defined by a workflow designer module 22a (shown in Figure 2). The process

data template is used to provide initial data for creation of process instances." (Du et al.:

Column 9, Lines 18-23; Davis et al.: Column 7, Lines 14-18; Column 12, Lines 3-11 and

25-35).

More generally Du et al. and Davis et al. teach distributed inter-enterprise

workflow management systems wherein the systems utilize the commercially available

HP OpenPM workflow management system (Du et al.: Abstract, Figure 2; Davis et al.:

Abstract; Column 47-51; Column 6, Lines 8-12; Column 7, Lines 45-48) that

adheres/utilizes the CORBA standard (Du et al.: Column 7, Lines 19-44) as well as

utilizes business objects to design, plan and execute business activities (workflows,

tasks, etc.; Davis et al: Column 8, Lines 4-26).

Du et al. and Davis et al. further teach that the inter-enterprise collaborative

workflow management systems specify the scope of the actions (activities, tasks, arcs)

performed by each of the nodes (agents; Davis et al: Column 12, 20-24; Du et al.:

Column 9, Lines 45-52).

As per Applicant's request for evidentiary support for the officially noticed fact

that there exists a plurality of mechanisms, methods, techniques and approaches to

exception (error) handling; ADEPT teaches that the collaborative process managers

(agents, agencies) comprise several modules (subsystems) including but not limited to

communication, interaction management, situation assessment and service execution

(reference B: Pages 4-5; Figure 2). More specifically ADEPT teaches that the

interaction management module (IMM) evaluates all requests for services (negotiation,

task requests, messages, proposals, etc.) and decides whether to accept,

forward/delegate or reject those service requests (e.g. reject an out-of-order service

request; reference B: Paragraph 4, Page 4) and that both the situation assessment

module (SAM) and the service execution module (SEM; also referred to as the

enactment module) provide exception handling capabilities (reference B: Paragraphs 2-3, Page 5; reference C: Paragraph 1, Page 6; Page 8, Enactment Module).

Bowman-Amuah, U.S. Patent No. 6,339,832 and Dietel et al., How to Program Java, teach a plurality of well-known exception/error handling techniques commonly used in developing object-oriented system (applications, code, components, etc.).

Dietel et al. teach "there are many popular ways to dealing with errors" (Page 805, Paragraph 4) and in particular Dietel et al. teach the error/exception handling capabilities of the Java programming language wherein developers/programmers throw .(i.e. provide an alert, message, etc.) and catch (i.e. receive and process the alerts/messages) exceptions (Chapter 14 Exception Handling, Pages 804-832). Dietel et al. teach that enabling programs to handle exceptions makes them more robust (Page 811, Software Engineering Observation 14.6).

Bowman-Amuah, teaches a more robust error/exception handling technique as part of an overall software architecture for providing services, including but not limited to error handling, messaging (CORBA) and workflow services, in a distributed environment (Abstract; Column 18, Lines 50-65; Column 259-267). More specifically Bowman-Amuah teaches that exception handling involves at least determining where the error occurred, what happened, communication (streaming) the error to the appropriate system (subsystem, code, routine, etc.) and determining how to respond to the error (Column 260, Lines 39-65; Column 261, Lines 5-10).

Information Disclosure Statement

7.   The listing of references in the specification is not a proper information disclosure

statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other

information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the

list may not be incorporated into the specification but must be submitted in a separate

paper." Therefore, unless the references have been cited by the examiner on form

PTO-892, they have not been considered.

The attempt to incorporate subject matter into this application by reference to

Foundation for Intelligent Physical Agents (FIPA; Specification, Page 3, Lines 19-20);

Workflow standard – terminology & glossary (Specification, Page 4, Lines 18-19); and

HP E-Speak (Specification, Page 19, Lines 27-28) is not proper.

Appropriate correction required.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9.   Claims 1-4, 6-9, 14-15 and 17-20 are rejected under 35 U.S.C. 102(b) as being

clearly anticipated by Advanced Decision Environment for Process Tasks (ADEPT)

aspects of which are discussed in the following references:

I. Norman, T.J., et al. Designing and implementing a multi-agent architecture for

business process management (1996) herein after referred to as reference A.

II. Jennings, N.R. et al., Using Intelligent Agents to Manage Business Processes

(1996) herein after referred to as reference B.

III. O'Brien, P.D. et al., Agent based process management: applying intelligent

agents to workflow (1998) herein after referred to as reference C.

IV. Alty, J.L. et al., Advanced Decision Environment for Process Tasks:

Overview and Architecture (1994) herein after referred to as reference D.

Regarding Claim 1 Advanced Decision Environment for Process Tasks (ADEPT)

also referred to as Agent Enhanced Workflow (AEW) or Agent Based Process

Management (APMS), teaches a method and system for managing a plurality of inter-

enterprise (cross enterprise, cross organizational, virtual enterprise, etc.) collaborative

business processes (workflows, collaborative workflow/process, etc.) utilizing a plurality

of collaborative process managers (agents; reference A: Pages 1-11; Figures 1-4;

reference B: Pages 1-12; Figures 1-2, 6-7 and 10; reference C: Section 4.1, pages 3-5;

Page 9; Figures 2, 3 and 5; reference D: Pages 1-3; Figures 1-5).

More specifically Advanced Decision Environment for Process Tasks teaches a

method and system for managing a collaborative process that involves at least a first

player in a first enterprise having a first collaborative process manager and a second

player in a second enterprise having a second collaborative process manager

comprising (reference A: Pages 1-11; Figures 1-4; reference B: Pages 1-12; Figures 1-

2, 6-7 and 10; reference C: Section 4.1, pages 3-5; Page 9; Figures 2, 3 and 5;

reference D: Pages 1-3; Figures 1-5):

- defining an inter-enterprise collaborative business process (reference A: Page

1, Paragraph 1, Line 6-7; Page 2, Paragraph 2, Lines 1-3; Page 2, Paragraph 4, Lines

1-2; Page 6, Paragraph 3, Lines 1-2; reference B: Page 2, Paragraph 2, Lines 1-3; Page

3, Paragraph 1, Lines 1-3; Figure 1, Page 3; reference D: Page 2, Paragraph 2, Lines 3-

5) having a plurality of work nodes (agents/agencies executing/managing a plurality of

services and tasks collaboratively); wherein each work node (agent providing services

and tasks) has an identifier (task role identifier, agent name, service name) for

specifying the agent (entity, role, player, etc.) responsible for execution of the work node

(reference A: Section 2.1, Pages 2-4; Figures 1-2; reference C: Pages 3-4; Figure 3);

- a plurality of collaborative process managers (agents, agencies; first/second

collaborative process manager) executing an instance of the collaborative business

process (reference A: Page 1, Paragraph 1, Line 6-7; Page 2, Paragraph 2, Lines 1-3;

Page 2, Paragraph 4, Lines 1-2; Page 6, Paragraph 3, Lines 1-2; reference B: Page 2,

Paragraph 2, Lines 1-3; Page 3, Paragraph 1, Lines 1-3; Figure 1, Page 3; reference D:

Page 2, Paragraph 2, Lines 3-5);

wherein the plurality peer instances (first and second) of the collaborative

business process form a logical execution instance (process instance; reference A:

Figure 1; reference B: Section 2.2, Pages 6-8; Paragraph 2, Page 12; Bullets 1-3, Page

15; Figures 3, 7; reference C: Section 1.4, Page 3; Paragraph 1, page 6; Figure 1,4);

and

wherein the plurality of peer instances (collaborating agents/agencies) of the

collaborative business process communicate via messages (information exchange,

negotiation, synchronization, communication, etc.; reference A: Page 2, Section 2.1,

Paragraph 1, Lines 5-8; Section 2.2 Inter-agent communication, Pages 4-6; Page 7,

Section 3, Paragraphs 1-2; Section 3.1 Communication, Pages 8-9; reference B: Page

4, Paragraph 3, Communications Module; reference C: "CORBA", Page 11, Bullet 1).
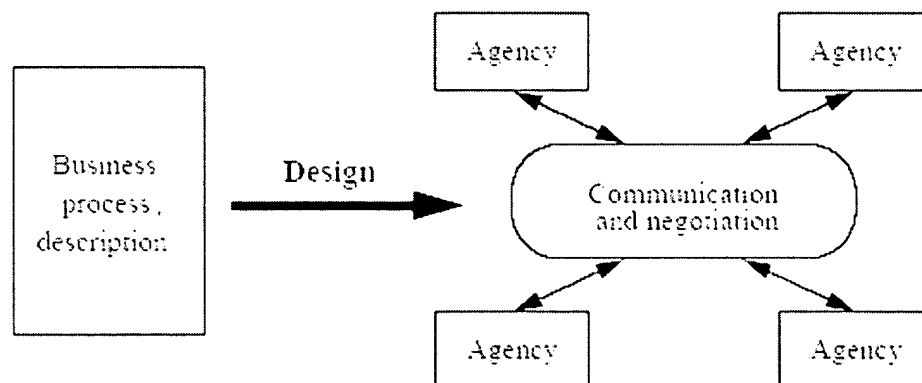

figure 1 Designing an agent-based business process management system.
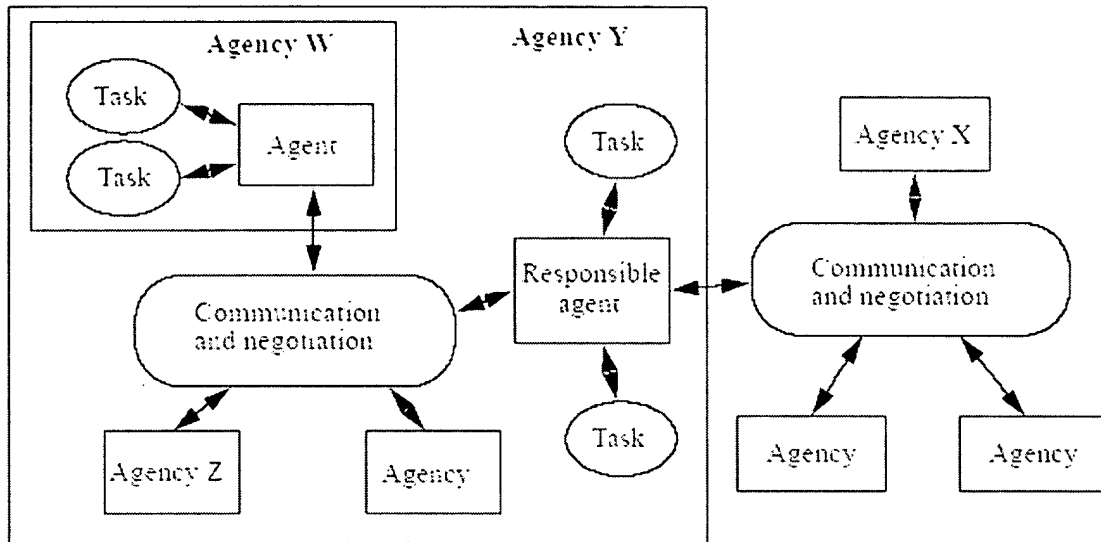
Figure 1: Figure 1, Reference A

figure 2 The logical hierarchy of agencies.
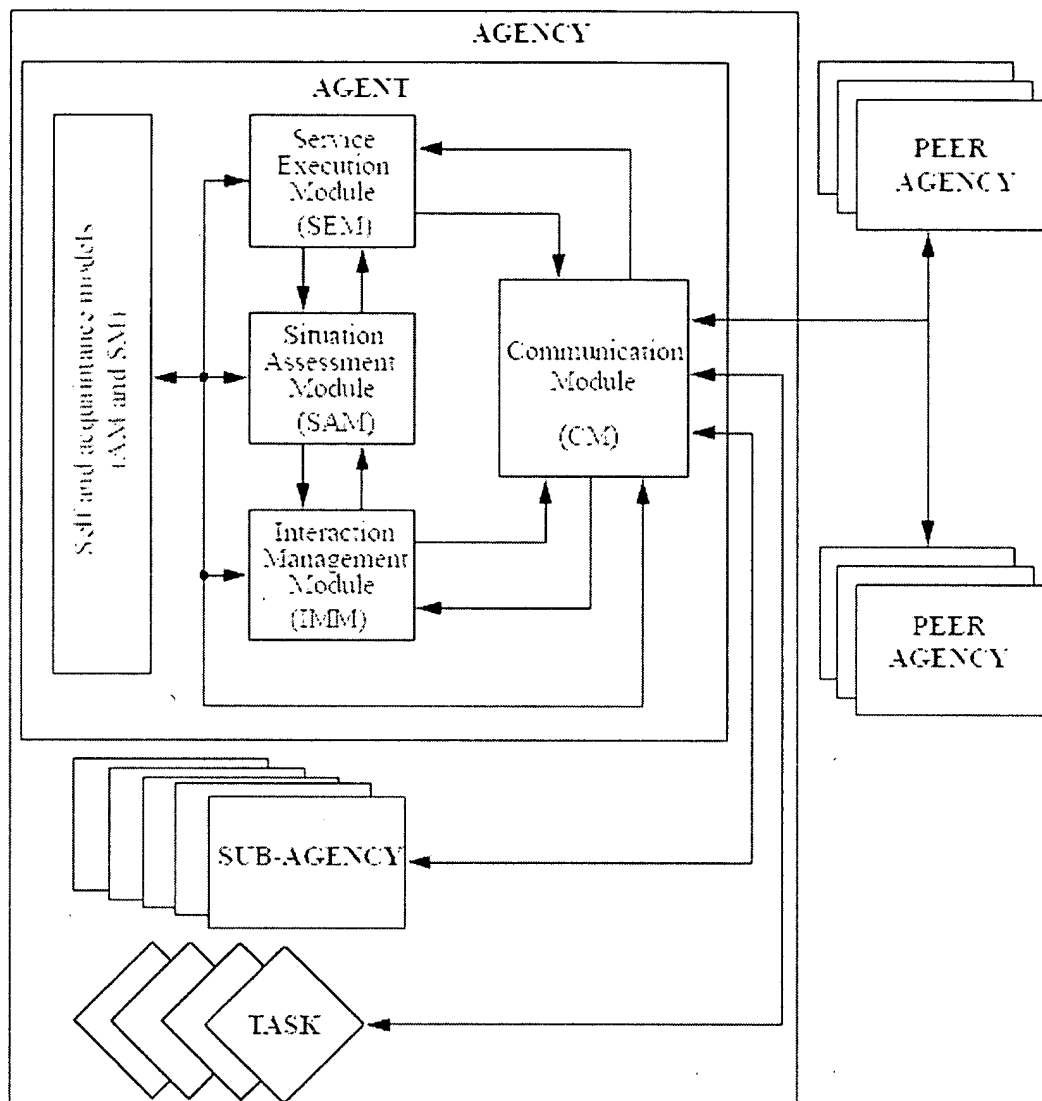
Figure 2: Figure 2, Reference A

figure 3 An agent architecture.
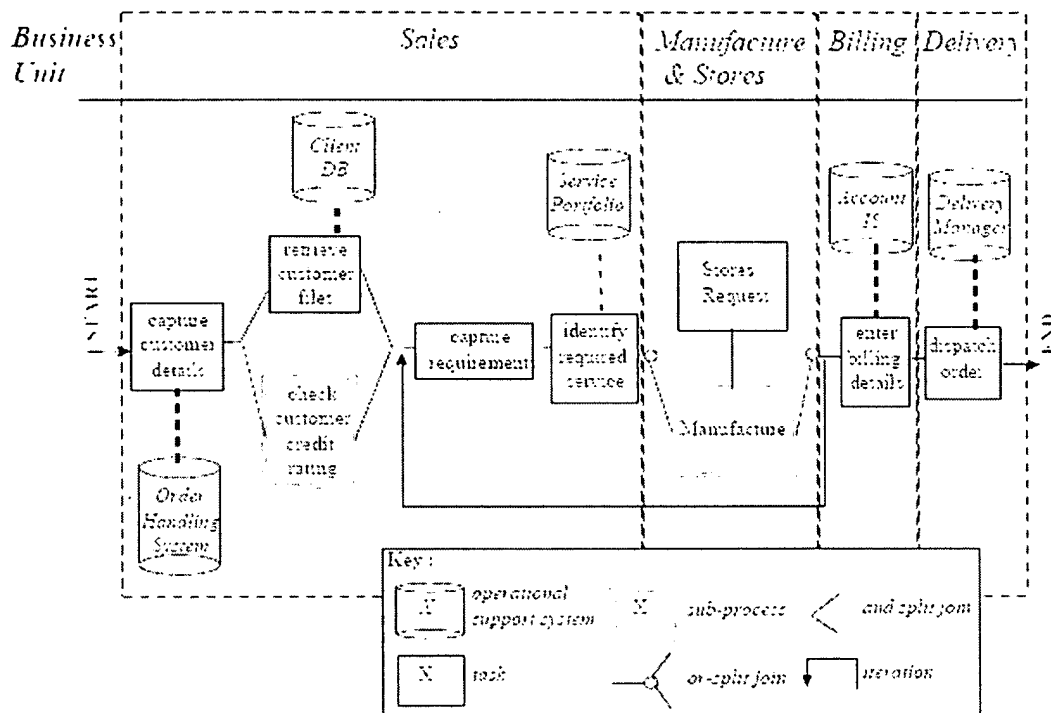
Figure 3: Figure 3, Reference A

Figure 2 : A Sales Business Process
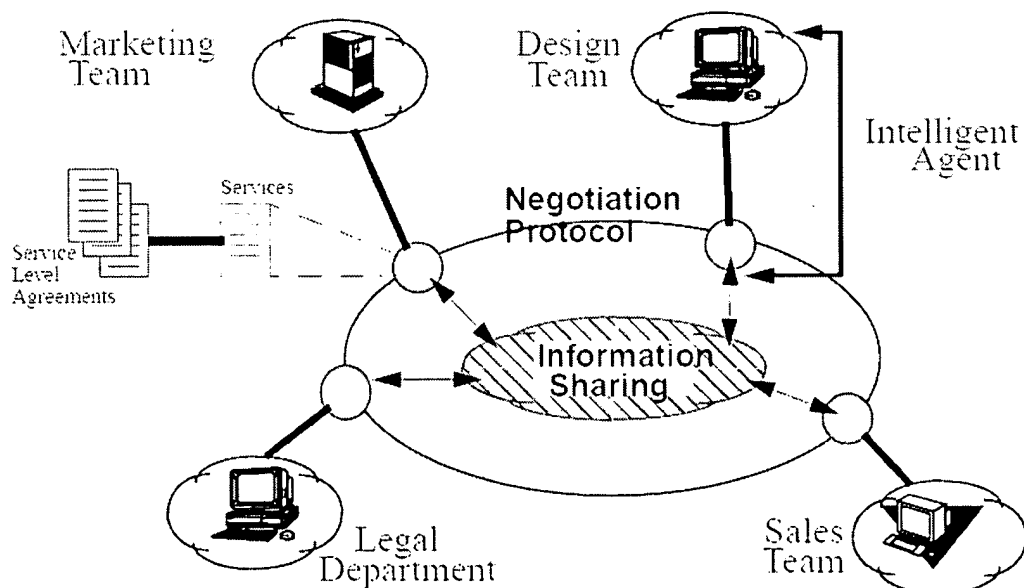
Figure 4: Figure 2, Reference C

FIGURE 1. An ADEPT Environment
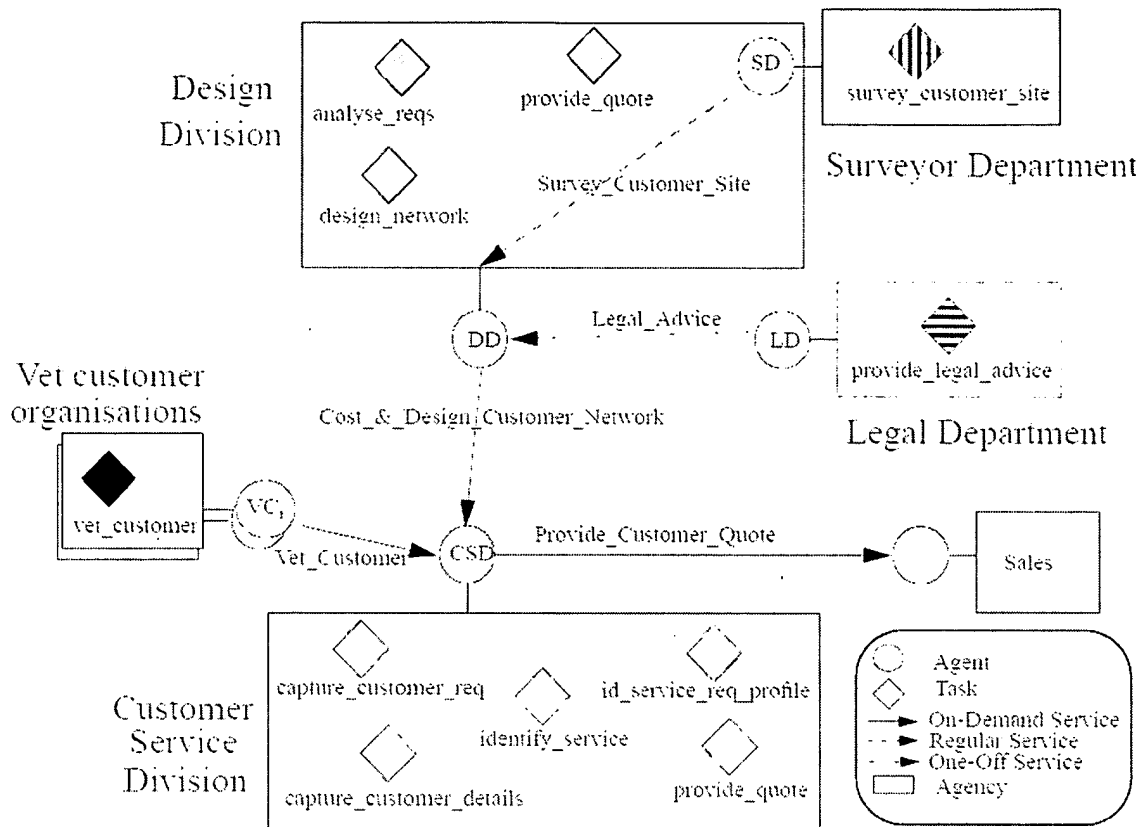
Figure 5: Figure 1; Reference B

FIGURE 7. Agent System for the Provide Customer Quote Business Process

Figure 6: Figure 7, Reference B

Regarding Claim 2 Advanced Decision Environment for Process Tasks teaches

an inter-enterprise collaborative process management system wherein the collaborative

business processes is executed/managed by a plurality of collaborating

agents/agencies that provide (server) and receive (client) services (tasks, etc.) and

further wherein the agents executing the business process comprise: (service

execution, situation assessment, communication, and interaction modules; reference A:

Section 3, Pages 7-11; Figures 1-3; negotiation, resource management and enactment

modules; reference B: Figure 7; reference C: Section 3, Pages 6-9; Section 4.1, Page 9;

Figure 5; reference D: Section 4, Pages 8-12):

- a collaborative process manager (agent) receiving a task (request for service,

message; reference D: Steps 1-2, Page 10);

- a collaborative process manager determining if the task is its responsibility

(situation assessment, negotiation, interaction module; evaluate proposals; reference B:

Paragraph 4, Page 4; reference D: Steps 2-4; Pages 10-11);

- when the task is the responsibility of the collaborative process manager,

executing the current task (enactment, action, accepting proposal, providing/executing

request service; invoke service; service level agreement, contract, etc.; reference B:

Pages 3, 5; Paragraph 3, Page 4; reference D: Step 4, Pages 10-11); and

- when the task is not the responsibility of the collaborative process manager, not

executing (ignoring, forwarding, rejecting, delegating, etc.) the task (reference B:

Paragraph 4, Page 4; reference D: Step 3, Pages 10-11).

Regarding Claim 3 Advanced Decision Environment for Process Tasks teaches

an inter-enterprise collaborative process management system wherein the when task is

the responsibility of the collaborative process manager (agent), executing the task

further comprises (reference B: Sections 2.1-2.2, Pages 4-8; reference D: Section 4,

Pages 8-12):

- scheduling the task (reference B: Interaction Module, Pages 4-5; reference B:

situation assessment module, Paragraph 1, Page 5; reference C: Bullet 1, Page 6;

Paragraphs 6-8, Page 8);

- dispatching the task for execution (forwarding, delegating, resource

management; reference A: Paragraph 1, Page 8; reference C: resource module, Page

8; reference D: Section 4.2, Pages 10-11, Steps 1-4);

- upon completion of task generating a message (service results; reference B:

Paragraph 3, Page 4; reference D: return, delivery, Steps 3 and 5; Pages 10-11); and

- sending a message (service request) to another collaborative process manager

(agent/agency; reference B: situation assessment module, communication module,

interaction module, Pages 4-5; Figure 2; reference D: Section 4.2, Pages 10-11).

Regarding Claim 4 Advanced Decision Environment for Process Tasks teaches

an inter-enterprise collaborative process management system wherein when the task is

not the responsibility of the collaborative process manager, not executing (invoking) the

task further comprises (reference B: Sections 2.1-2.2, Pages 4-8; reference C: Pages

7-8; reference D: Section 4, Pages 8-12):

- not executing the task (ignore, rejecting proposal/service request,

forwarding/delegating; reference B: Paragraphs 3-4, Page 4);

- waiting for a message (service request) from another collaborative process

manager (agent/agency; reference D: Steps 1-4, Pages 10-11); and

- receiving a message (service request) from another collaborative process

manager (agent/agency; reference D: Steps 1-4, Pages 10-11).

Advanced Decision Environment for Process Tasks further teaches that the

system utilizes messaging/messages to request/provide services amongst the plurality

of collaborative process managers/agents wherein the agents to send/receive

messages (service requests, service negotiation; reference B: Paragraph 3, Page 4),

wait for messages (service requests, proposals), review/analyze messages (situation

assessment, proposal evaluation), act upon messages based on the analysis and send

messages (status, updates, etc.) after the action/task has been completed (reference B:

Pages 4-5; reference D: Steps 1-4, Pages 10-11; reference A: Page 2, Section 2.1,

Paragraph 1, Lines 5-8; Section 2.2 Inter-agent communication, Pages 4-6; Page 7,

Section 3, Paragraphs 1-2; Section 3.1 Communication, Pages 8-9; reference B: Page

4, Paragraph 3, Communications Module; reference C: "CORBA", Page 11, Bullet 1).

Regarding Claim 6 Advanced Decision Environment for Process Tasks teaches

an inter-enterprise collaborative process management system wherein the system uses

a key (cooperation key, handle, identifier, symbol, etc.) to identify a logical instance of

the collaborative business process and to correlate and synchronize multiple peer

instances of the execution of a single collaborative business process (reference A:

Section 3.1, Pages 8-9; Figure 4; reference D: Section 4, Pages 8-11).

Regarding Claims 7 and 19 Advanced Decision Environment for Process Tasks

teaches an inter-enterprise collaborative process management system employing

messages for synchronizing the peer process instances (collaborative agents/agencies)

and for exchanging data between process instances; wherein each message includes

(reference A: Page 2, Section 2.1, Paragraph 1, Lines 5-8; Section 2.2 Inter-agent

communication, Pages 4-6; Page 7, Section 3, Paragraphs 1-2; Section 3.1

Communication, Pages 8-9; reference B: Page 4, Paragraph 3, Communications

Module; reference C: "CORBA", Page 11, Bullet 1):

    - a key (cooperation key, handle, identifier, etc.) for specifying (identifying,

accessing, requesting, participating in) a logical process instance (conversationID,

informodelID, etc.; reference A: Page 9; Figure 4; reference B: agent negotiation,

Section 2.3, Page 8);

    - a local handle (name, address, agent_id, registered agents, identity etc.) of the

process instance and task (message, service request, find/location agent; reference A:

Paragraph 2, Page 8; Paragraph 3; Figure 4; reference B: Figure 5; reference D: Steps

1-2, pages 10-11);

    - a status (service results, content, body; reference D: Section 4.1, Page 8;

Section 4.2, Steps 1-4, Pages 10-11) and

    - a sub-packet (packet, grouping, etc.) of process data passed to a task

(message, process manager; reference A: Paragraph 3, page 9, Figure 4; reference B:

Section 2.2, Page 6, Figures 3-4).

Regarding Claims 8 and 20 Advanced Decision Environment for Process Tasks

teaches an inter-enterprise collaborative process management system wherein a list of

process roles (roles, agencies) for indicating logical participants of the collaborative

process; wherein each work node has a task role that matches one of the process roles;

and wherein a peer process having a process role that matches the task role of a work

node is responsible for executing the work node (reference A: Pages 1-11; Figures 1-4;

reference B: Pages 1-12; Figures 1-2, 6-7 and 10; reference C: Section 4.1, Pages 3-5;

Page 9; Figures 2, 3 and 5; reference D: Pages 1-3; Figures 1-5).

Regarding Claim 9 Advanced Decision Environment for Process Tasks teaches

providing a collaborative process definition language (service description, service

language, common communication language/mechanism, process description, process

modeling) for defining the collaborative business process (reference A: Section 2.1,

Pages 4-6; reference B: Section 2.2, Pages 6-8; reference C: Section 1.4, Pages 3-4;

reference D: Section 4.1, Pages 8-9).

Regarding Claim 14 Advanced Decision Environment for Process Tasks a

system for allowing a first player in a first enterprise to collaborate with a second player

in a second enterprise comprising (reference A: Pages 1-11; Figures 1-4; reference B:

Pages 1-12; Figures 1-2, 6-7 and 10; reference C: Section 4.1, pages 3-5; Page 9;

Figures 2, 3 and 5; reference D: Pages 1-3; Figures 1-5):

- a collaborative business process definition specified by a collaborative process

definition language (reference A: Paragraph 4, Page 2; Figure 1) and based on a

business collaboration protocol, the collaborative business process definition having a

plurality of work nodes (collaborative agents providing and requesting tasks and

services; reference A: Paragraph 1, page 4; Figure 2), each work node having a task

role (reference B: "sales", "marketing", Paragraphs 1-2, Page 3; Figure 1; reference C:

Paragraphs 2-4, Page 5; Figure 3);

- a plurality of collaborative process managers (agents, first and second

collaborative process managers) in a plurality of enterprises (departments,

organizations, inter/intra-enterprise process collaboration) for executing a one or more

peer process instance of the collaborative business process (definition), the one or

more peer process instance having a role (services agents provide/receive, agents

representing departments, organizations, individuals, etc.); wherein the one or more

peer process instance is responsible only for work nodes (agents/agencies) that have a

role (services, tasks, etc.; reference C: Paragraphs 2-4, Page 5) that matches (related

to, associated with, collaborate with) the role (reference B: Figure 2) of the one or more

peer (reference A: Footnote 1; Page 3; Figure 2) instances (hierarchy of

agents/agencies that collaboratively execute one or more instances/executions of the

business process; reference A: Paragraph 3, Page 3; Paragraphs 1-2, Page 4;

Paragraph 5, Page 2; Figure 2);

- a peer-to-peer communication mechanism for enabling data exchange and

synchronization between the plurality of (first and second) peer process instances

(reference A: Page 2, Section 2.1, Paragraph 1, Lines 5-8; Section 2.2 Inter-agent

communication, Pages 4-6; Page 7, Section 3, Paragraphs 1-2; Section 3.1

Communication, Pages 8-9; reference B: Page 4, Paragraph 3, Communications

Modue; reference C: "CORBA", Page 11, Bullet 1).

Regarding Claim 15 Advanced Decision Environment for Process Tasks teaches

an inter-enterprise collaborative process management system further comprising a

communication module (message generator) for generating a plurality of messages for

the collaborative process manager (service execution, situation assessment,

communication, and interaction modules; reference A: Section 3, Pages 7-11; Figures

1-3; reference B: Figure 7; negotiation, resource management and enactment modules;

reference C: Section 3, Pages 6-9; Section 4.1, Page 9; Figure 5; reference D: Section

4, Pages 8-12).

Regarding Claim 17 Advanced Decision Environment for Process Tasks teaches

an inter-enterprise collaborative process management system further comprising a

private (secure, confidential, etc.) sub-process (processes, services, sub-services)

manager (agents, agencies, virtual agency, sub-agents) selectively making process

data (objects, services, messages) private (confidential, secure, etc.) to a particular

collaborative process manager (e.g. encapsulation enables agencies/sub-agencies to

be agnostic as to the internal implementations of other agents/objects and provides a

mechanism for providing private/internal variables/scopes and external/public

interfaces; reference C: "Security", last bullet, Page 11).

Regarding Claim 18 Advanced Decision Environment for Process Tasks teaches

an inter-enterprise collaborative process management system further comprising a role

determination module (situation assessment module, interaction module, service

execution module; reference B: section 2.1, Pages 4-5) for receiving the task (request

for service, message; reference D: Steps 1-2, Page 10), for determining whether the

current task is the responsibility of the collaborative process manager (situation

assessment, negotiation, interaction module; evaluate proposals; reference B:

Paragraph 4, Page 4; reference D: Steps 2-4; Pages 10-11), when the current task is

the responsibility of the collaborative process manager (enactment, action, accepting

proposal, providing/executing request service; invoke service; service level agreement,

contract, etc.; reference B: Pages 3, 5; Paragraph 3, Page 4; reference D: Step 4,

Pages 10-11), for scheduling and dispatching the task for execution, when the task is

not the responsibility of the collaborative process manager, not executing the task

(service execution, situation assessment, communication, and interaction modules;

(reference B: Paragraph 4, Page 4; reference D: Step 3, Pages 10-11; reference A:

Section 3, Pages 7-11; Figures 1-3; reference B: Figure 7; negotiation, resource

management and enactment modules; reference C: Section 3, Pages 6-9; Section 4.1,

Page 9; Figure 5; reference D: Section 4, Pages 8-12).

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11.   Claims 5, 10-13 and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Advanced Decision Environment for Process Tasks (ADEPT), as

applied to claims 1-4, 6-9, 14-15 and 17-20 above, aspects of which are discussed in

the following references:

I. Norman, T.J. et al., Designing and implementing a multi-agent architecture for

business process management (1996) herein after referred to as reference A.

II. Jennings, N.R. et al., Using Intelligent Agents to Manage Business Processes

(1996) herein after referred to as reference B.

III. O'Brien,.P.D. et al., Agent based process management: applying intelligent

agents to workflow (1998) herein after referred to as reference C.

IV. Alty, J.L. et al., Advanced Decision Environment for Process Tasks:

Overview and Architecture (1994) herein after referred to as reference D.

Regarding Claim 5 Advanced Decision Environment for Process Tasks teaches

that the collaborative process managers (agents, agencies) comprise several modules

(subsystems) including but not limited to communication, interaction management,

situation assessment and service execution (reference B: Pages 4-5; Figure 2). More

specifically ADEPT teaches that the interaction management module (IMM) evaluates

all requests for services (negotiation, task requests, messages, proposals, etc.) and

decides whether to accept, forward/delegate or reject those service requests (e.g. reject

an out-of-order service request; reference B: Paragraph 4, Page 4) and that both the

situation assessment module (SAM) and the service execution module (SEM; also

referred to as the enactment module) provide exception handling capabilities (reference

B: Paragraphs 2-3, Page 5; reference C: Paragraph 1, Page 6; Page 8, Enactment

Module).

More specifically Advanced Decision Environment for Process Tasks teaches an

inter-enterprise collaborative process management system wherein the task is not the

responsibility of the collaborative process manager, not executing the task further

comprises (reference B: Page 5, situation assessment and execution modules

reference C: Pages 3-6 and 8-9, enactment module, exception handling):

- evaluating a message (service request, proposal) to determine whether an

exception (error, out-of-order) condition has occurred (reference B: Paragraph 4, Page

4); and

- when an exception condition has occurred, processing the exception (exception

handling; reference B: Paragraphs 2-3, Page 5; reference C: Paragraph 1, Page 6;

Page 8, Enactment Module); and

- when an exception condition has not occurred, processing the next task.

Advanced Decision Environment for Process Tasks further teaches that the collaborative process management system and method utilizes a plurality of collaborative process managers (agents/agencies) that communicate/collaborate an Object Request Broker (ORB) and messaging (reference A: "The communication medium may consist of a dedicated local or wide area network via some standard communications protocol, an Object Request Broker (Mowbay and Zahavi 1995), or use of the Internet via Email, for example.", Page 2, Section 2.1, Paragraph 1, Lines 5-8; Section 2.2 Inter-agent communication, Pages 4-6; Page 7, Section 3, Paragraphs 1-2; Section 3.1 Communication, Pages 8-9; reference B: Page 4, Paragraph 3, Communications Module; reference C: "CORBA", Page 11, Bullet 1).

However Advanced Decision Environment for Process Tasks does not expressly teach the specific messaging queuing techniques/approaches/steps as claimed.

Official notice is taken that the utilization of message queues for managing tasks is old and very well known in the art and provides a convenient means for managing the asynchronous exchange of information between the plurality of system modules (components, agents, sub-systems, etc.) as evidenced by Orfali, Robert et al., Client/Server Survival Guide (1999), as discussed above, wherein Orfali et al. teach a plurality of old and very well known technologies including but not limited to the Object Request Brokers and message queues (Pages 469, 479) and that such technologies are used to create business and business process objects that are "...used to design

systems that mimic the business processes they support." (Page 494, Paragraph 4;

Page 496; Page 469, Paragraphs 2-3; Figure 22-2; Message Oriented Middleware,

Page 479; Figures 8-1 and 8-10; Pages 473-474 and 479; Page 157, Paragraph 2,

Lines 6-7; Pages 170-172; Figures 8-6, 8-7, 8-8 and 8-10; Table 8.1).

It would have been obvious to one skilled in the art that the inter-enterprise

collaborative process management system, with its use of messaging (a common

approach to enabling different systems, agents, etc. with each other), as taught by

Advanced Decision Environment for Process Tasks would have benefited from

employing a plurality of common messaging tools, techniques, methods or systems

including message queuing (queues), the resultant system providing a convenient

means for managing service and other requests (messages) asynchronously thereby

making it more robust and scalable.

Regarding Claim 10 Advanced Decision Environment for Process Tasks teaches

an inter-enterprise collaborative process management system wherein the definition of

the business process includes templates (service descriptions, contracts, service level

agreements; reference B: Section 2.2, Pages 6-7; Figures 3-4; reference C: Paragraph

2, Page 6; Figure 4; reference D: Section 4.1, Pages 8-9; Step 3, Page 8) and the use

of scope (sharing, security, confidentiality) that is one of public and process-role specific

(reference B: Page 7; reference C: Pages 6 and 11).

More generally Advanced Decision Environment for Process Tasks teaches the

utilization of a plurality of templates to define the business process, collaborative

process managers (agents; e.g. the tasks/services the agents provide and request;

service level agreements, service description language; contracts, default values, etc.)

and the messages/communications used to connect/coordinate the plurality of

collaborative process managers (reference B: Section 2.2, Pages 6-7; Figures 3-4;

reference C: Paragraph 2, Page 6; Figure 4; reference D: Section 4.1, Pages 8-9; Step

3, Page 8)

Advanced Decision Environment for Process Tasks does not expressly teach

that the scope (access control, security, etc.) is specified in at least one template.

Official notice is taken that specifying a plurality of parameters; including such

parameters as security/access control (scope of variables, object, etc.), the templates

ensuring that all items (processes, agents, contracts, roles, etc.) created (instantiated)

using the template are initialized with the appropriate default/initial parameters as

evidenced by Du et al., U.S. Patent No. 5,826,239, and Davis et al., U.S. Patent

5,937,388, as discussed above, wherein both teach Du et al. and Davis et al. that

"Associated with each workflow process 18, there is a process data template defined by

a workflow designer module 22a (shown in Figure 2). The process data template is

used to provide initial data for creation of process instances." (Du et al.: Column 9,

Lines 18-23; Davis et al.: Column 7, Lines 14-18; Column 12, Lines 3-11 and 25-35).

It would have been obvious to one skilled in the art at the time of the invention that the inter-enterprise collaborative process management system as taught by Advanced Decision Environment for Process Tasks would have benefited from insuring the security of the system through a plurality of means including providing default (standard) security rights (access, scope, etc.) via item templates.

Regarding Claim 11 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein specifying the scope includes setting the scope as public (global, universal, etc.); wherein the data is public to all process-roles (reference C: security, confidentiality, Page 11, last bullet; reference B: Section 2.2, Pages 6-7; Figures 3-4; reference C: Paragraph 2, Page 6; Figure 4; reference D: Section 4.1, Pages 8-9; Step 3, Page 8).

Advanced Decision Environment for Process Tasks does not expressly teach that the scope (access control, security, etc.) is specified in the template.

Official notice is taken that specifying a plurality of parameters, including such parameters as security (scope); the templates ensuring that all items (processes, agents, contracts, roles, etc.) created (instantiated) using the template are initialized with the appropriate parameters as evidenced by Du et al. and Davis et al. as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the inter-enterprise collaborative process management system as taught by Advanced Decision Environment for Process Tasks would have benefited from insuring the security of the system through a plurality of means including providing default (standard) security rights (access, scope, etc.) via item templates.

Regarding Claims 12 and 13 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system wherein scope of process-role (agent) is specified and further wherein the data is accessible only to the process-role specified (reference C: Pages 6 and 11).

Advanced Decision Environment for Process Tasks does not expressly teach that the scope is specified for at least two different process roles or that the scope is specified in at least one template.

Official notice is taken that to associate (include) scope (access control, security, usage, etc.) with a more than one agent, user, role, application, system or the like is old and very-well known in the art as a means for insuring the security of the system as evidenced by Du et al. and Davis et al. as discussed above.

It would have been obvious to one skilled in the art at the time of the invention that the inter-enterprise collaborative process management system as taught by Advanced Decision Environment for Process Tasks would have benefited from insuring the security and integrity of the system through a plurality of mechanisms including the assignment of scope to at least two difference process roles (agents, users, etc.).

Regarding Claim 16 Advanced Decision Environment for Process Tasks teaches an inter-enterprise collaborative process management system further comprising an rule-based exception (error, compensation, alternative flow, out-of-order) handling mechanism for receiving messages from other collaborative process managers, determining whether the messages are received is an exception (out-of-order or other error; situation assessment and execution modules; reference B: Page 5; enactment module, exception handling; reference C: Pages 3 and 8-9).

Advanced Decision Environment for Process Tasks further teaches that the collaborative process managers (agents, agencies) comprise several modules (subsystems) including but not limited to communication, interaction management, situation assessment and service execution (reference B: Pages 4-5; Figure 2). More specifically ADEPT teaches that the interaction management module (IMM) evaluates all requests for services (negotiation, task requests, messages, proposals, etc.) and decides whether to accept, forward/delegate or reject those service requests (e.g. reject an out-of-order service request; reference B: Paragraph 4, Page 4) and that both the situation assessment module (SAM) and the service execution module (SEM; also

referred to as the enactment module) provide exception handling capabilities (reference

B: Paragraphs 2-3, Page 5; reference C: Paragraph 1, Page 6; Page 8, Enactment

Module).

The Advanced Decision Environment for Process Tasks does not expressly

teach the specific error handling techniques or methods employed by the system.

Official notice is taken that there exists a plurality of mechanisms, methods,

techniques and approaches to exception (error) handling. More specifically one well-

known technique for exception handling to review the exception messages (alerts,

signals, etc.) as they are received, halting (interrupting) execution when the exception is

detected (received) that matches a particular criteria or rule and not halting (continuing)

the execution when the exception received does not meet a particular criteria rule (e.g.

severity, priority, etc.) as evidenced by Bowman-Amuah, U.S. Patent No. 6,339,832 and

Dietel et al., How to Program Java, each of which teach a plurality of well known

exception/error handling techniques commonly used in developing object-oriented

system (applications, code, components, etc.) as discussed above.

It would have been obvious to one skilled in the art at the time of the invention

that the inter-enterprise collaborative process management system as taught by

Advanced Decision Environment for Process Tasks, including its rule-based exception

handling capabilities would have benefited from employing any of a plurality of well-

known exception handling techniques including creating at least one rule (criteria)

wherein exceptions (e.g. out-of-order) are handled in an appropriate manner.

Conclusion

12.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

- Flores et al., U.S. Patent no. 5,734,837, teach a method and system for

analyzing, designing, documenting and executing business processes consisting of one

or more workflows wherein the system defines roles, initial workflow data, routes and

the like utilizing workflow templates.

- Du et al., U.S. Patent No. 5,826,239, teach an inter-enterprise distributed

workflow management system and method wherein the system utilizes HP's OpenPM

workflow management system to define and manage collaborative workflows. Du et al.

further teach that each workflow process has an associated process data template that

defines initial data for the instantiation (creation) of process instances.

- Chen et al., U.S. Patent No. 5,878,206, teach a system and method for providing exception handling and scope control for information systems.

- Davis et al., U.S. Patent No. 5,937,388, teach a inter-enterprise distributed workflow management system and method wherein workflow process models and executed/managed via work nodes (process activity), policies, process data templates, business objects and the like. Davis et al. further teach that the inter-enterprise workflow management system utilizes well-known commercial tools and/or standards, for example HP's OpenPM and CORBA.

- Sikora et al., U.S. Patent NO. 6,449,646, teach a workflow management system and method wherein the system utilizes a plurality of message queues to manage work activities/tasks.

- Chen et al., U.S. Patent Publication No. 2002/0138287, teach a system and method for managing inter/intra enterprise collaboration (i.e. communicating to provide services) utilizing collaborating process managers (cooperative agents, domain coordinator) that communicate via messaging (e.g. HP's E-Speak).

- Chen et al., U.S. Patent Publication No. 2002/0178395, teach a system and method for exception/failure handling in a multi-agent collaborative system (inter-enterprise).

- Bowman-Amuah, Michael, U.S. Patent No. 6,339,832, teach an enterprise architecture wherein a plurality of services are provided including but not limited to exception handling.

- Johannesson P. et al., Application and Process Integration, teach a system and method for inter/intra organizational business process (system) collaboration wherein workflow management systems are extended/adapted by a collaborative process manager (process broker) that enables the design and execution of adaptable workflow services provided via an open standards based architecture. Johannesson et al. further teach the importance of exception/error handling for such workflow management systems.

- Johannesson P., A Process Broker Architecture for Systems Integration, teach a collaborative inter-enterprise workflow management system wherein the system utilizes collaborative process managers (ORBs, process brokers) to provide for a more flexible and adaptive coordination between cooperating systems/processes.

- Chen et al., Inter-Enterprise Collaborative Business Process Management, teach a inter-enterprise collaborative workflow management system utilizing a plurality of collaborative process managers wherein the system enables process level software agent collaboration.

- Chen et al., How Agents from Difference E-Commerce Enterprises Cooperate, teach system and method for facilitating/coordinating inter-agent cooperation utilizing a plurality of cooperative process managers in a workflow system.

- Orfali et al., Client/Server Survival Guide, teach a plurality of well-known technologies and techniques for designing and building systems including but not limited to messaging and object request brokers (ORBs).
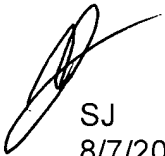
- Dietel et al., How to Program Java, teach a plurality of well-known Java

programming techniques including but not limited to constructors, queues and exception

handling.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Scott L. Jarrett whose telephone number is (571) 272-

7033. The examiner can normally be reached on Monday-Friday, 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hafiz Tariq can be reached on (571) 272-6729. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

SJ
8/7/2005

SUSANNA M. DIAZ
PRIMARY EXAMINER

AU 3623